

CONNECTICUT SITING COUNCIL

ISO Late Filed Exhibit 1

Company: ISO New England, Inc.
Docket No. F-2008

Date: August 14, 2008
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LFE 1: Will the ISO continue to monitor the Southwest Connecticut interface after the Middletown-Norwalk Project is in service?

Response: ISO New England Inc. ("ISO or "ISO-NE") monitors the Southwest Connecticut interface due to the thermal and voltage limits associated with importing power into this area. This interface consists of several transmission lines that connect Southwest Connecticut to the rest of New England. Southwest Connecticut generally encompasses the area west of Interstate 91 and south of Interstate 84, which is about one quarter of the land area of Connecticut.

The Bethel-Norwalk Project, which was put in service in October 2006, and the Middletown-Norwalk Project, which is expected to be in service in mid 2009, are expected on a combined basis to increase the ability to import power into Southwest Connecticut by approximately 1,300 MW.

These projects represent a major enhancement to the transmission system serving Southwest Connecticut, and are expected to alleviate constraints moving power into this area.

ISO will continue to monitor the SWCT interface for system operations and continue to model the interface in system planning studies through the completion of the M-N Project. ISO is re-evaluating the limitations on importing power into this area based on the performance of these projects and other changes to loads and system topology in conjunction with The Connecticut Light & Power Company, the operator of the Local Control Center for Connecticut. It is anticipated that the SWCT interface will continue to be monitored after completion of the Middletown-Norwalk Project, particularly during times when one of the new 345 kV lines are out of service.

ISO will keep the Council apprised of any decisions affecting this interface.

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LFE 2: Is ISO-NE studying new transmission ties to New York and Canada to help meet New England's growing demand for electricity?

Response: Yes.

There are two recent enhancements to New England's interconnections to neighboring regions: (1) A second 345-kV tie to New Brunswick was put in service in December 2007; and (2) The underwater cable between Norwalk and Long Island has been replaced and was placed in-service in July 2008.

As a member of the Northeast Power Coordinating Council (NPCC), ISO-NE participates in interregional planning studies with NYISO, PJM, Ontario, Quebec, and the Canadian Maritime provinces. ISO-NE, NYISO and PJM also follow the Northeastern ISO/RTO Planning Coordination Protocol, which, among other things, results in the development of a Northeast Coordinated System Plan through an open stakeholder process. The Plan evaluates the addition of transmission upgrades, including new ties to increase the transfer limits between the ISO/RTOs. ISO-NE is currently participating in studies with NYISO and PJM for system improvements that would allow increased power flows into New England.

In addition to the reliability projects developed through the regional system planning process, there are several proposals for new transmission projects that would connect New England to hydro, wind and nuclear supplies being developed in Eastern Canada. These projects were showcased at a special meeting of the Planning Advisory Council on December 18, 2007. Presentations by developers of these projects are posted on ISO-NE's Web site.¹ Subsequently, New England stakeholders (including transmission companies and states) have requested economic studies under new provisions of the ISO-NE Tariff. ISO-NE is currently conducting economic studies to examine various scenarios involving new transmission to access potential supply resources within New England and Eastern Canada. These study requests, including transmission projects to connect to new supplies, are posted on ISO-NE's Web site.²

This topic will be discussed in more detail in the forthcoming 2008 Regional System Plan, Section 12: Interregional Planning and Regional Initiatives.

¹ http://www.iso-ne.com/committees/comm_wkgrps/prtcpnts_comm/pac/mtrls/2007/dec182007/index.html

² http://www.iso-ne.com/committees/comm_wkgrps/prtcpnts_comm/pac/mtrls/2008/apr302008/index.html

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ISO Late Filed Exhibit 3

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LFE 3: What documentation can ISO provide about moving Lake Road Generating Company into Connecticut?

Response: ISO prepared a report for Lake Road Generating Company in 2007 that describes the upgrades that would be required for these units to be treated as capacity resources in Connecticut. Ultimately, Lake Road decided not to pursue these upgrades. The following is an excerpt of the report:

Executive Summary

This document presents the results of the thermal and stability analyses performed in response to the elective transmission study request (Queue Position # 181, Lake Road Market Operations) proposed by the Lake Road Generating Company (Lake Road). The purpose of this study is to determine if zero, one, two or three Lake Road units provide incremental load-serving capability for Connecticut.

Lake Road is an existing generating plant physically located in northeastern Connecticut. It consists of three separate units with a maximum net output of 280 MW each (at 50F or above) and 305 MW each (at 0F or above).

The following changes to the transmission topology are assumed, as stipulated in the application -

1. Completion of the Killingly 345-kV station and the 345/115 kV autotransformer
2. Removal of the Special Protection System (SPS) that trips the Lake Road plant for reclosing of either the 3348 or 347 345-kV transmission lines.

The scope of this study includes analysis of generation runbacks, trips, operating procedures and new special protection systems to determine the maximum amount of Lake Road generation that could be considered as serving Connecticut's load, under the above assumptions for transmission topology.

The analysis assumes transmission system conditions and load levels of Summer 2007 for the purposes of this study.

The stability analysis reveals that in order to meet normal contingency criteria, all three Lake Road units have to be dispatched offline following the first contingency (loss of Line 347) in order to prevent generator instability with the next contingency. Thus, the incremental load-serving capability of the Lake Road plant for CT load is 'zero' MW under existing system conditions.

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The mitigating solution to the above constraint would be –

1. Installation of a new special protection scheme (SPS) that would be armed following the loss of either lines 330 or 347. Following the loss of the second line, this SPS would trip all the Lake Road units. The trip of the Lake Road units is tested at 24 cycles after the fault inception and the system response is acceptable.

After this new SPS is implemented, all stability constraints are removed.

The thermal analysis reveals that one Lake Road unit (280 MW) provides incremental load-serving capability for CT, provided that –

2. Lines 1512 (Granville Jct to Southwick) and 1768 (Southwick to North Bloomfield) are upgraded to their conductor (556 ACSR) limit and have a LTE rating of at least 228 MVA.

In conclusion, one Lake Road unit with a maximum net output of 280 MW (at 50F or above) and 305 MW (at 0F or above) provides incremental load-serving capability for Connecticut, provided the two upgrades mentioned above are completed. This unit has to be Lake Road Unit #2 interconnected between breaker positions 5T and 6T at the Lake Road 345-kV station. Lake Road units #1 and #3 do not provide this incremental load-serving capability because single transmission contingencies (breaker failures 8T and 2T respectively) result in simultaneous loss of a CT Import tie line and a Lake Road unit.

Source: *Lake Road Elective Transmission Study Request– Market Operations Study, Thermal and Stability Analysis*, ISO New England, April 5, 2007.

Additional information:

CL&P, with input from ISO and Lake Road, submitted a White Paper to the Council on Lake Road as a follow up to the 2007 hearing. The White Paper explains how the Lake Road units are configured on the bulk power system and what needs to occur to treat the units as capacity in Connecticut. The Council's 2007 report summarizes some of these issues in the section titled, Electric Transmission in Northeast Connecticut, pages 23-24.